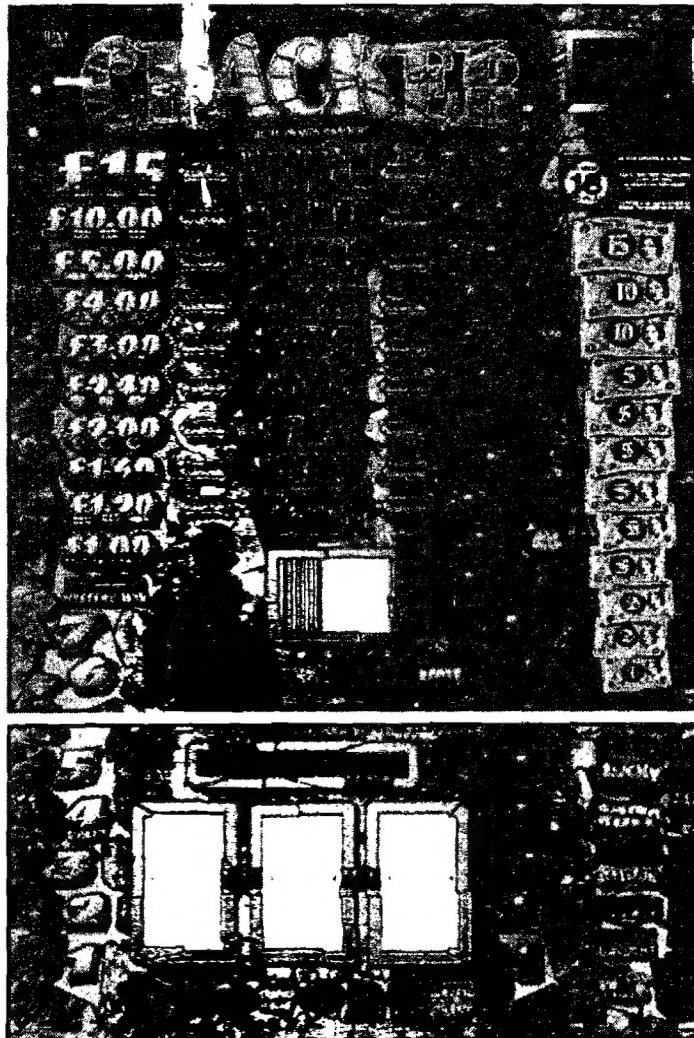


CRACKER



CRACKER
OPERATIONS &
SERVICE



WARNING & PRECAUTION

To ensure the proper operation of this machine the following Warnings and Precaution must be observed.

All warnings and Precaution in this manual are preceded by an icon, which will indicate the type of warning it is.

They are as follows:



This icon indicates that there is an operator option which if not selected correctly the machine will fail to operate correctly.



This icon indicates that failure to follow the instruction given will likely cause damage to the machine or even cause injury to service personnel and customers alike. Also the warranty of the machine will become invalid.

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QUICK REFERENCE

MACHINE NAME: CRACKER TYPE: AWP MANUFACTURER: JPM

PRODUCTION RELEASE DATE: DATA CAPTURE I.D. CODE: YY01

POP OPTIONS: 20p 25p 30p £15.00
5p / 10p £8.00
5p / 10p / 20p / 25p / 30p £5

METHOD OF SELECTION: STAKE/PRIZE KEY

CABINET STYLE & DIMENSIONS: Electra Cabinet

WIDTH: 682mm HEIGHT: 1760mm DEPTH: 660mm WEIGHT: 120Kg approx

COIN MECHANISMS

MANUFACTURER	TYPE	COINS ACCEPTED
MARS	CASH FLOW DFX	5p, 10p, 20p, 50p, £1, £2
COIN CONTROLS	C435A	5p, 10p, 20p, 50p, £1, £2

ROUTING PLUG:

MECH	TYPE	LINKS (→ = diode and how facing)	
C/FLOW DXF	22 WAY	1 ← 13, 2 ← 22, 14-20	(Pt No 032537)
C435A	18 WAY	7-8, 5-13, 7 → 15, 15 ← 17	(Pt No 032538)

PAYOUT UNITS

ROUND POUND PAYOUT-1x£1 Hopper assembly only

COIN	HOP/TUBE	MANUFACTURER	TYPE	VOLTAGE	CAPACITY
£1	Hopper	Coin Controls	Compact	24V DC	£125.00

REFILL KEY NO: 87000

REEL MECH TYPE: 3 x 16 STOP 16RM WIDE MANUFACTURER: Starpoint
1 x 16 STOP 16RM Horizontal Reel Mech Starpoint

DISPLAYS: 1 x Alpha Numeric

POWER SUPPLY TYPE: Impact 400W MANUFACTURER: JPM

MPU TYPE: IMPACT MANUFACTURER: JPM

MAIN PCB TYPES:

Impact 3 Motherboard, Program and Hopper Drive PCB.

Impact 1 Motherboard, Processor Program, Sample Sound and Hopper Drive PCB.

PERCENTAGE SETTINGS: METHOD OF ADJUSTMENT: % Key
RECOMMENDED SITE SETTING: 82%

SEC METER	METER NO.	DESCRIPTION	UNIT VALUE
	5	REFILL	10p
	0	CASH IN	10P
	1	CASH OUT	10P



CONTENTS

WARNING & PRECAUTION	i
QUICK REFERENCE	ii
INSTALLATION	1
Supply Connection	1
Siting.....	1
Setting Up.....	2
Safety Precautions	2
INFORMATION DISPLAYED ON POWER UP	3
GAME DESCRIPTION.....	4
General	8
TEST 1 - Coin Test.....	8
TEST 2 - Reel Test	8
TEST 3 - Lamp Test.....	8
TEST 4 - Switch Test	8
TEST 5 - Display / Error Log Test	9
TEST 6 - Meter Test.....	9
TEST 7 - RS232 Test.....	9
TEST 8 - Sound Test	9
TEST 9 - Percentage Test.....	9
TEST 10 - Photo mode	9
DIL - SWITCH OPTIONS	10
IMPACT CIRCUIT BOARDS	12
IMPACT 1	13
IMPACT 3	14
POWER SUPPLY.....	15
PAYOUT ASSEMBLY	16
MULTIPLEXED LAMPS	17
MULTIPLEXED SWITCHES.....	18
REEL CONNECTOR & BANDS	19
DISPLAY.....	20
COIN MECHANISMS	21
GLASS CHANGE INSTRUCTION.....	22
STAKES & PRIZE OPTIONS	23
PERCENTAGE KEY	23
METERS & BOOKKEEPING	24
REFILL & DUMP PROCEDURE	25
FAULT FINDING	27
ERROR & EVENT CODES	28
CONTACTS	30
PART No.'s.....	31
ENGINEERS NOTES	35

INSTALLATION



Supply Connection



THIS MACHINE MUST BE EARTHED. THERE IS A RISK OF ELECTRIC SHOCK IF THE SUPPLY CABLE USED TO POWER THIS MACHINE HAS NOT GOT A SOUND EARTH CONNECTION.

Power Requirement: 230V A.C. - 50Hz. 400W

Supply voltage must be within +10% and -15% of that selected. This machine has been set, at the factory, for a supply of 230V AC.

A means should be provided for isolating the machine from supply either by use of an isolator switch or a suitable Plug. If a plug is used it should be accessible from the machine. If an isolator is used it should be sited according to the requirements of local regulations.

If a fused plug is to be used for connection to supply it should be fitted with a fuse rated at not greater than 5 AMPS. If a plug is not fused or the cord is connected directly to the electrical installation, the installation must be protected by a 5A IEC approved fuse or circuit breaker.

The supply cable is to be no longer than 2 meters. To meet safety requirements the following must be used to connect to the power supply:

Connector	Complying with BS4491
Cord	3 Core 0.75mm ² diameter complying with BS6500
Plug	Complying with BS1363
Plug Fuse	5A 250V complying with BS1362



A SUITABLY QUALIFIED OR ADEQUATELY INSTRUCTED AND SUPERVISED PERSON SHOULD ONLY CARRY OUT OPERATIONS AND INTERNAL ACCESS DESCRIBED IN THIS SECTION.

Siting

This machine is designed for **INDOOR USE ONLY** and the following should be noted in relation to the siting of the machine:

1. Ambient temperature 0 to +50 centigrade.
2. Locate machine on a surface, which is flat and stable. If the machine is not vertical, the coin acceptor may not work correctly.
3. Do not site machine close to any direct source of heat such as a radiator.
4. Siting machines on nylon carpets can cause problems because of static electricity. Avoid such carpets if possible.
5. Do not fit wheels or place machine on castor boards other than those supplied or approved by JPM International.

INSTALLATION

Setting Up

Any component or part removed from this machine must be replaced by a similar approved part.



1. Before applying power open the back door and check that all connectors, assemblies, and wiring are correctly engaged inside the machine.
2. Set the DIL switch options on the main board to the correct position for the site.
3. Check that all coins and tokens are routed to the correct tube hopper or cashbox.
4. Install and connect data capture unit to RS232 BACTA port on the main board if this is required.
5. With the main door open access the test routine to ensure that all machine functions are working correctly.
6. Adjust the volume level (see Refill Modes or Test 8 for adjustment details) to suit site conditions.

Safety Precautions



UNDER NO CIRCUMSTANCES SHOULD ANY CONNECTOR/CIRCUIT BOARD BE REMOVED OR RECONNECTED WHILST THE POWER IS SWITCHED ON. FAILURE TO OBSERVE THIS CAN RESULT IN PERMANENT COMPONENT DAMAGE, WHICH MAY INVALIDATE ANY MACHINE WARRANTY.

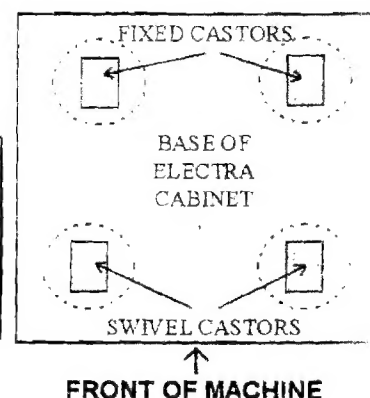
ELECTRICAL SAFETY: To protect against electric shock and prevent component damage, connecting or disconnecting any components or connectors from this machine must be carried out with the power turned off.

MANUAL HANDLING: an appropriately trained person should carry out Manual handling of the machine.

FITTING OF CASTORS:



To comply with Health and Safety requirements only approved type castors of the appropriate design specification should be fitted to this style cabinet. These castors should be fitted in positions as per diagram on the right.

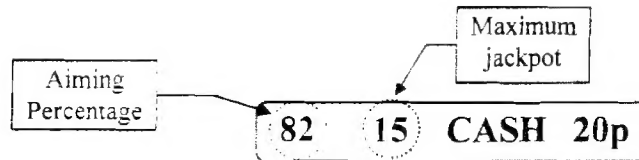


A Castors kit is available from JPM - Part No: 020597.

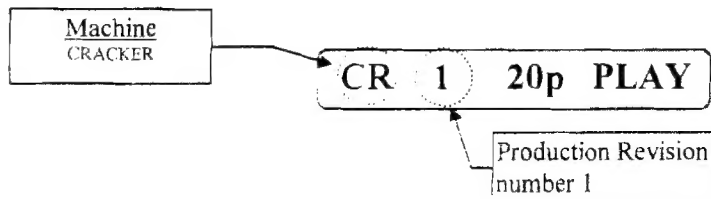


INFORMATION DISPLAYED ON POWER UP

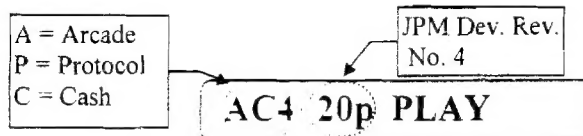
On power up, with the back door and the cash door closed, the alphanumeric will initially display a message in the format:



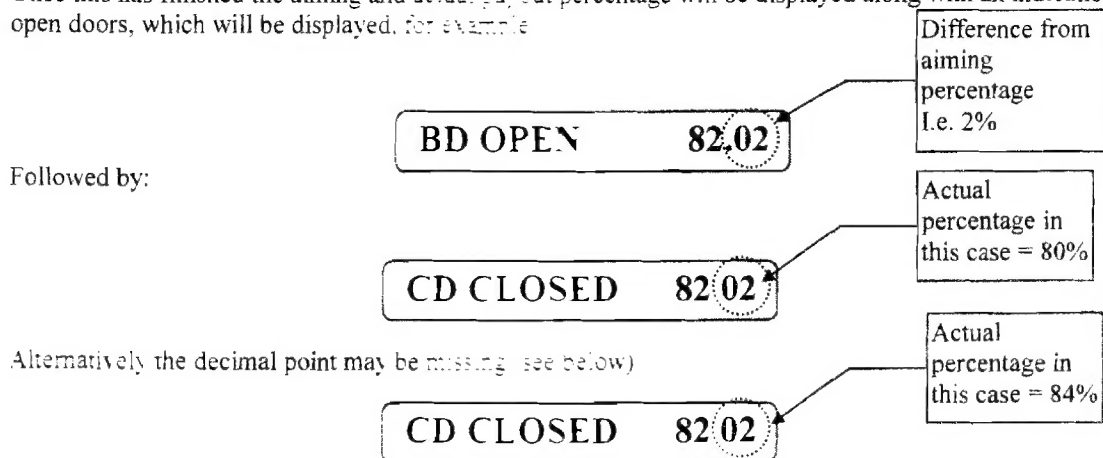
If one of the doors is open the machine will display a machine identification code and the cost of play whilst the reels are initialising, for example:



Followed by:



Once this has finished the aiming and actual payout percentage will be displayed along with an indication of any open doors, which will be displayed, for example



Where, in this example 82 is the aiming percentage and 02 is the amount that the actual percentage differs from the aim. A decimal point between the values is an indication that the actual percentage is **UNDER** the aiming percentage by, in this example, 2%. If the decimal point were missing the machine would be achieving a percentage 2% over, in this example, 84%.

TECHNICAL ASSISTANCE

If technical assistance is required this may be obtained from the JPM Customer Services Department on:

Tel: 029 20223000

Fax: 029 20225460

GAME DESCRIPTION

Cracker is a High - tech AWP. The game revolves around heart stopping gambles, depth of strategy and the prospect of large cash awards. The feature game consists of three separate ladders comprised of Features, Cash and Nudges.

Feature Entry

Feature game entry is achieved by completing one of the two 1 - 7 trails via overlaid numbers that over spill into the cash & nudge ladders. If two trails are completed simultaneously, the player chooses which trail he wants to start on. The player is awarded a bonus on position four which comprise of:

Double Trail	The trail simply doubles and completes feature entry.
Numbers In View	All numbers in the reel window increment the trail.
Respin	The reels spin off to new positions.
Number Runner	Gives the player the choice of stepping the reels upwards or downwards. Numbers add into the trail as they land on the win line.
Boost	The player is boosted a random number positions along the feature entry trail.
Choose A Trail	Enables the player to select a new position on the feature entry trail.
Random Stop	The player is awarded a pseudo scatter on the feature entry trail.
Add Again	Adds all numbers on the win line to the trail again.

Main Game

Once a trail has been completed the player Hi Lo gambles up the ladder. Each successful gamble completed steps the player up one ladder position. Upon trail entry a random number of exchange points are seeded between the three trails that allows the player to swap from one trail to another. Exchange points assist the player in climbing the three different ladders. The player is also awarded Steps (1 - 3) when they enter the main game. These can be used at any point during the main game and will step the Hi Lo reel downwards one position. Each time the player exchanges from one ladder to another they will be awarded a bonus Step Down number.

Number Reel Bonuses

To help the player there are Hi Lo gamble bonuses that are activated via overlaid symbols on some of the Hi - Lo numbers. These comprise of:

Extra Step	Awards the player extra Step Right on the number reel.
No Lose	The player is guaranteed to win their next gamble.
Xtra Life	If the player loses a gamble they do not exit the ladder and remain in the same position.
Super Notes	Pays any wins achieved from the Multi Cash Award panel by the higher red amounts.
Cracker	Adds letters to the name fill win series.
Lucky 7	No Lose Gamble on a 7.
Boost	Boosts player a random amount up the trail.



GAME DESCRIPTION

Features

Cracker Win Series on the Red Notes.

Revolution	All the reels line up to the Jackpot symbols and spin off. The player presses start to stop the reels and will be given that award. A repeat chance is offered and if successful will step the reels down to the next award.
Note Link	A random pattern of lit values is displayed on the "Note Column". The player has 3 attempts to try to link lit patterns of values in the Note column. All lit linked values from bottom upwards are accumulated and paid.
Double Impact	A pseudo skill shot is awarded on the cash trail. Then another pseudo skill shot above the position achieved is awarded.
Cash Bang Wallop	The player is awarded a number of Knockouts corresponding to the number on the Feature Reel.
Hi - Lo Note	The player Hi - Lo gambles on the "Note Column". Each correct Hi Lo guess moves the player up the "Note Column". All wins are accumulative and are banked after each successful Hi Lo gamble.
Lucky Numbers	The reels spin off and each number that is brought onto the win line will step the player up the cash award card. This player continues spinning the reels and stepping up the award card until either he reaches the Jackpot + repeat chance or no numbers spin on to the win line, then the highest lit prize is awarded.
Twister	A single lamp circulates around the reels. The player presses Start and the lamp will slow down slowly until it stops on a fruit.
Note Drop	The player has a chance to skilfully hit a fast falling cash value on the "Note Column".
Golden Hold	All three reels step up and step down one position. The player uses the hold buttons to select the best win available.

Hidden Features

The hidden features are activated via three overlaid red bar symbols. Once activated the player will be awarded one of the following:

Lucky Strike	Three cash values are flashed on the display: "£5.00*£10.00*£15.00". The player presses button to stop on a value, then is offered a repeat chance.
Bank Roll	The left reel spins until the player skill stops on a fruit, which can then be matched or mixed. If the player chooses mixed then the middle reel spins. If the player does not match the middle reel fruit chosen then the third reel spins and the player has a final skill stop chance.
Fireball	A single lamp animates across the three ladders. The player uses their skill to select the best available position.
Crazy Reels	All the reels spin off and pay in a 27-way fashion. A repeat feature chance is offered.
Adrenalin	The player IS AWARDED THE Hi Lo reel number MULTIPLIED BY £1s. EG Number 12 X £1 = £12 Then a Hi-Lo gamble for a repeat.
Lucky Ladders	The player has to use their skill to stop on the best position available as all three trails animate from the bottom upwards.
Red Hot Roller	The player skill stops the Hi Lo reel on a number, which then steps the player up the cash ladder a corresponding number of moves. Number 12 achieved equals a Jackpot.

Extras

Hold All - Step Up / Step Down	When a win can be seen above or below the win line the player may be offered holds. If the three reels are held the win will be brought onto the win line.
Third Hold	On the third hold of a pair the remaining symbol will be brought onto the win line.
Cancel Cheat	Slows down various skill stops.
Hold After Nudge Cheat	

GAME DECALS

£15 Decal

"All Lit Awards Cracker"

CRACKER

£15 3 Bar	⇔	REVOLUTION	⇔	16 NUDGES
£10.00 2 Bar	⇔	NOTE LINK	⇔	12 NUDGES
£5.00 1 Bar	⇔	DOUBLE IMPACT	⇔	10 NUDGES
£4.00 Jpm	⇔	CASH BANG WALLOP	⇔	8 NUDGES
£3.00 Bell	⇔	HI-LO NOTE	⇔	7 NUDGES
£2.40 Pear	⇔	LUCKY NUMBERS	⇔	6 NUDGES
£2.00 Melon	⇔	TWISTER	⇔	5 NUDGES
£1.60 Grape	⇔	NOTE DROP	⇔	4 NUDGES
£1.20 Mix Bar	⇔	GOLDEN HOLD	⇔	3 NUDGES
£1.00 Cherries				2 NUDGES
Mystery Win Boxes				1 NUDGE
7				7
6				6
5				5
4 BONUS				4 BONUS
3				3
2				2
1		TRAILS HELD		1

£8.00 Decal
£8.00
3 Bar
£6.00
2 Bar
£5.00
1 Bar
£4.00
Jpm
£3.00
Bell
£2.40
Pear
£2.00
Melon
£1.60
Grape
£1.20
Mix Bar
£1.00
Cherries

£5.00 Decal
£5.00
3 Bar
£4.40
2 Bar
£4.00
1 Bar
£3.60
Jpm
£3.00
Bell
£2.40
Pear
£2.00
Melon
£1.60
Grape
£1.20
Mix Bar
£1.00
Cherries

GAME DECALS

£15.00 Cash Value Column:

(£15.00 Blu)	(£15.00 Red)
£5 Note	£15 Note
£2 Note	£10 Note
£2 Note	£10 Note
£1 Note	£5 Note
£1 Note	£5 Note
£1 Note	£5 Note
50p Note	£5 Note
50p Note	£5 Note
50p Note	£5 Note
50p Note	£2 Note
50p Note	£2 Note
50p Note	£1 Note

£8.00 Cash Value Column:

£4 Note	£8 Note
50p Note	£6 Note
50p Note	£6 Note
50p Note	£4 Note
50p Note	£4 Note
50p Note	£4 Note
50p Note	£4 Note
20p Note	£4 Note
20p Note	£4 Note
20p Note	£2 Note
20p Note	£1 Note
20p Note	£1 Note

£5.00 Cash Value Column:

(£5.00 Blu)	(£5.00 Red)
£5 Note	£5 Note
£5 Note	£5 Note
£5 Note	£5 Note
£5 Note	£5 Note
£5 Note	£5 Note
£5 Note	£5 Note
£5 Note	£5 Note
£5 Note	£5 Note
20p Note	£5 Note
20p Note	£5 Note
20p Note	£2 Note
20p Note	£2 Note
20p Note	£1 Note



TEST PROCEDURE

General

Opening the back door and pressing the RED test button will enter the test routines. This can also be done whilst in demo mode.

TEST 1 - Coin Test

Inserted coins will cause the denomination to be displayed

<u>HOLD 3</u>	<u>COLLECT</u>	<u>EXCHANGE</u>	<u>START</u>
Active Diverts	Inhibit all coins	Dump Mode	Exit
	All coins will be rejected.	Will Dump all coins from hopper	Exits current test
<u>CANCEL</u>	<u>CANCEL</u>		
£1 Diverts to cashbox	Payout £1 coins		

TEST 2 - Reel Test

<u>EXCHANGE</u>	<u>HOLD 1</u>	<u>HOLD 2</u>	<u>HOLD 3</u>	<u>EXCHANGE</u>	<u>START</u>
Executes Test	Reel 1	Reel 2	Reel 3	Top Number reel	Exit
	Will step reel down one symbol	Will step reel down one symbol	Will step reel down one symbol	Will step reel down one symbol	Exits current test

TEST 3 - Lamp Test

<u>EXCHANGE</u>	<u>HOLD 2</u>	<u>HOLD 3</u>	<u>EXCHANGE</u>	<u>START</u>
Executes Test	Pause step sequence	Induces a faster step rate	Illuminates Lamps	Exit
			Press once = Will light all top glass lamps. Press twice = Will light all bottom glass lamps Press again = Will step lamps in order	Exits current test
The Alphanumeric display will display the lamp number as per the lamp matrix				

TEST 4 - Switch Test

Pressing any button will cause that button to illuminate and the current state of the switch plus a description to be displayed on the ALPHA (excluding the Start as this exits the current test).

<u>Dil Switch</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>
<u>Illuminates</u>	Trail Pos 1	Trail Pos 2	Trail Pos 3	Trail Pos 4	Trail Pos 5	Trail Pos 6	Trail Pos 7	Mystrey Win

<u>Other Switches</u>	<u>Hopper top up</u>	<u>Hopper dump</u>	<u>£1 Hopper Detect</u>	<u>Cash door</u>	<u>Refill key</u>
<u>Illuminates</u>	Nudge Trail 1	Nudge Trail 2	1 Step	Nudge Trail 3	Nudge Trail 4



TEST PROCEDURE

TEST 5 - Display / Error Log Test

On entering this test the segments of the displays are cycled through and if an alpha is fitted a pattern is flashed on the alphanumeric display. Pressing Exchange will cause the machine to enter Error Display Mode.

<u>EXCHANGE</u>	<u>HOLD 1</u>	<u>START</u>
Executes Test	Error Display Mode	Exit

<u>CANCEL</u>	<u>HOLD 1</u>	<u>HOLD 2</u>	<u>HOLD 3</u>	<u>START</u>
Clear Log	Next Error	Most Recent	Previous Error	Exit
Deletes Log	Displays next error in reverse chronological order	Displays recent error	Displays next error in chronological order	Exits current test

TEST 6 - Meter Test

<u>EXCHANGE</u>	<u>START</u>
Executes Test	Exit

The test will initiate automatically and depending on the meter status will say either display **Meter Pass** or **Meter Fail**.

NOTE:

THE S.E.C. DOES NOT INCREMENT ANY METER VALUES STORED.

TEST 7 - RS232 Test

<u>COLLECT</u>	<u>EXCHANGE</u>	<u>START</u>
TEST 1 With Datapak (Protocol Mode)	TEST 2 Without Datapak (Standard Mode) Insert link between pin 2&3 on the 25 way D-type	Exit
Pass will be displayed if Datapak is working	Characters are transmitted automatically; PASS will be shown if they are received back, FAIL if not.	

TEST 8 - Sound Test

<u>EXCHANGE</u>	<u>HOLD 2</u>	<u>HOLD 3</u>	<u>START</u>
Enter test	Up	Down	Exit
Enters current test	Increases set volume	Decreases set volume	Exits current test

TEST 9 - Percentage Test

<u>EXCHANGE</u>	<u>START</u>
Executes Test	Exit

On entering this test the percentage selected via the percentage key will be displayed on either the alpha or credit display. The key may be changed for another one and the new percentage will be displayed.

TEST 10 - Photo mode

<u>EXCHANGE</u>	<u>START</u>
Executes Test	Exit



DIL - SWITCH OPTIONS

DIL SWITCH INFORMATION - DIL SWITCHES AS STANDARD AWP.

DIL	OFF	ON
1	Aim at % key	Add on 1% to that of key
2	Display hopper levels in refill only with back door open	Display hopper levels in refill regardless of door state
3	Clear credit and bank on Error alarm	Do not clear credit and bank on Error alarm
4	Normal Payout	Direct Payout
5	No sounds in attract mode	Sounds in attract mode
6	-	-
7	Normal Audio Visual Effects	LBO Reduced Audio Visuals
8	Off / On Alarm enabled	Off / On Alarm disabled

For Cash or Token Payout Machines: IOU is displayed as standard when no coins available on payout.
For Token Payout Machines: Tokens are never locked out in normal game.



TECHNICAL INFORMATION

IMPACT CIRCUIT BOARDS

IMPACT Mother Board

(Refer to diagrams)

All main circuitry is connected via the motherboard the following points should be noted:

Note 1: On Board LED

The STATUS LED on the motherboard indicates the status of the system. Under normal operation the display will be as follows:

APPLY POWER
AFTER 5 - 20 SECONDS

STATUS LED

OFF
FLASHING

If the status LED remains OFF (wait for at least a minute) it may indicate a problem with the processor (main board impact 3) or memory card (i.e. connection)

Note 2: On Board Push to Make Switch

The switch has two functions as follows (Note: main door switch in the normal door open position):

1. Entry to the Test Routine - Press for less than 2 seconds.
2. Entry to the Demonstration Mode - Press for greater than 2 seconds (until tone sounds).

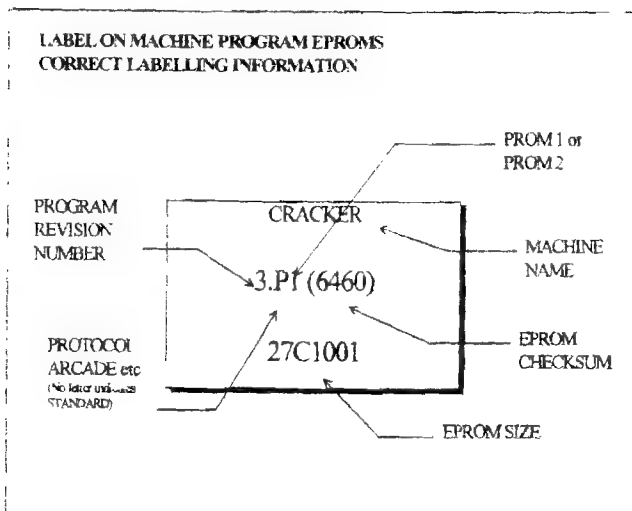


WARNING

Program Eproms

IMPORTANT NOTICE:

This button does **not** function as a RAM clear.
Clearing the RAM unnecessarily will affect the machines performance, i.e. take. At a last resort RAM clear should be achieved by fitting another game into the machine or by changing the price of play.



EPROM SIZE

512K / 1M
2M
4M
8M

LINKS FITTED

See program cards
See program cards
See program cards
See program cards

The program fitted to this IMPACT technology machine, at present, is on 2 x 1M EPROM's identified, for example, as follows:

<u>PROM 1</u>	<u>PROM 2</u>	<u>PROGRAM</u>
1.1	1.2	STANDARD
1.P1	1.2	PROTOCOL

Note: A series 4-protocol program would be identified as 4.P1 and 4.2

IMPORTANT: EPROM's should *always* be marked with the information shown in the diagram above. This helps to identify correct program for a particular machine.

IMPACT CIRCUIT BOARDS



IMPACT 1

Combined Processor / Memory Card

When the machine is switched off the machine performance information is retained in RAM. The RAM (U2 & U3) backup is from a 2.4V 100 mAh Nickel Cadmium (Blue casing) or a Nickel Hydride (Green casing) battery.

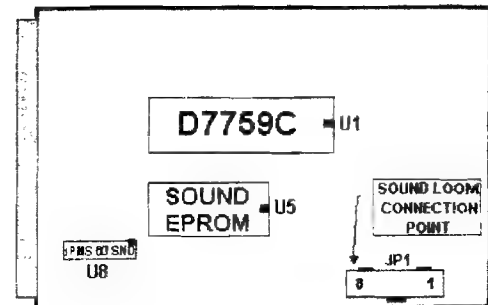
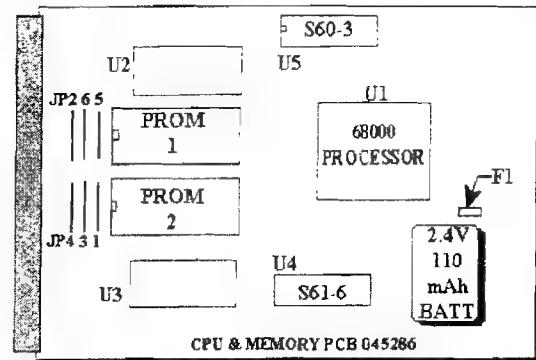
The poly fuse F1 provides a safety link between the battery and the RAM.

Replacement programs are, at this time, on 1Mb EPROM's. Links on the Processor/Program card can be changed to accommodate different EPROM sizes, up to 8Mb, as follows:

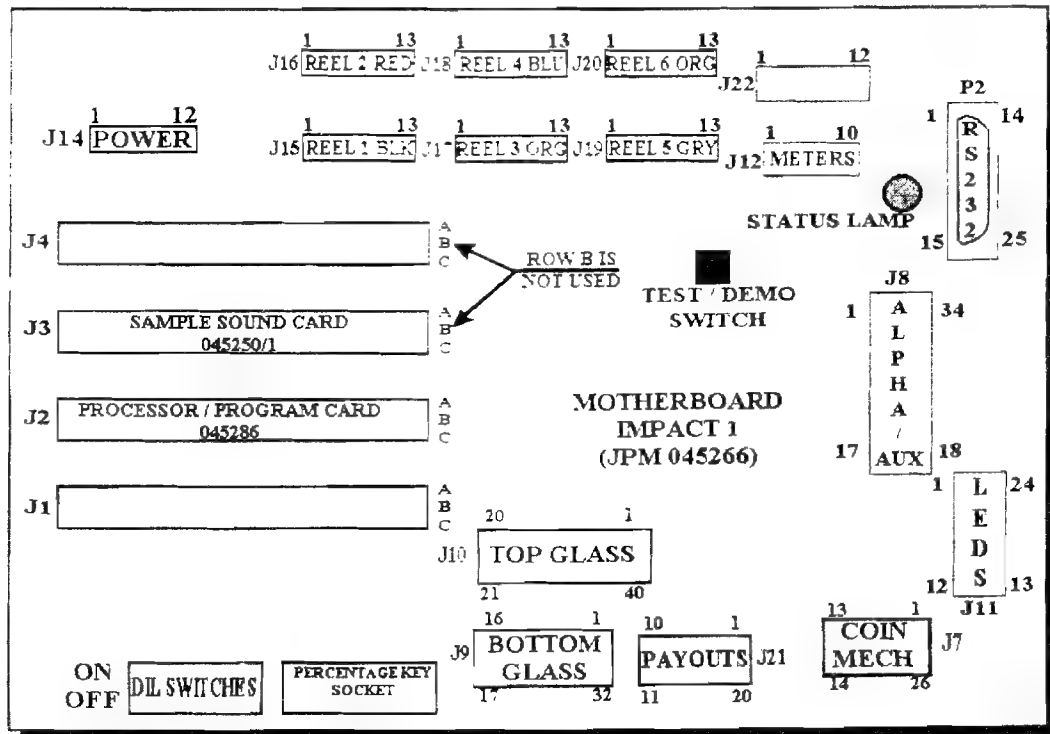
EPROM SIZE	LINKS FITTED
512K / 1M	JP1, JP3, JP5
2M	JP2, JP3, JP5
4M	JP2, JP4, JP5
8M	JP2, JP4, JP6

Sound Card

The speaker loom is connected direct to the sound card. There is no manual adjustment. The sound is adjusted electronically via the test procedure or via a refill mode option between levels 0 and 40. The machine default value is level 15.



Connection to Sound Card)	PLUG	PIN	WIRE	FUNCTION
	JP1	4	GRN/PNK	SPK REF
	JP1	5	PNK/RED	



IMPACT CIRCUIT BOARDS

IMPACT 3

The IMPACT 3 Program Card houses the two Game PROMS and the Sound PROM. All the other functions are all contained within the motherboard.

IMPACT 3 Program Card

Links on the Program card can be changed to accommodate different EPROM sizes, up to 8Mb, as follows:

GAME

PROM SIZE

1M

2M

4M

8M

LINKS FITTED

JP5, JP6, JP7

JP6, JP7, JP10

JP7, JP8, JP10

JP8, JP9, JP10

SOUND

PROM SIZE

2M

4M

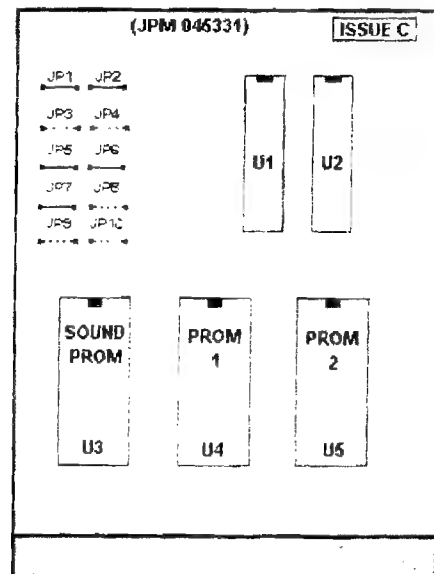
8M

LINKS FITTED

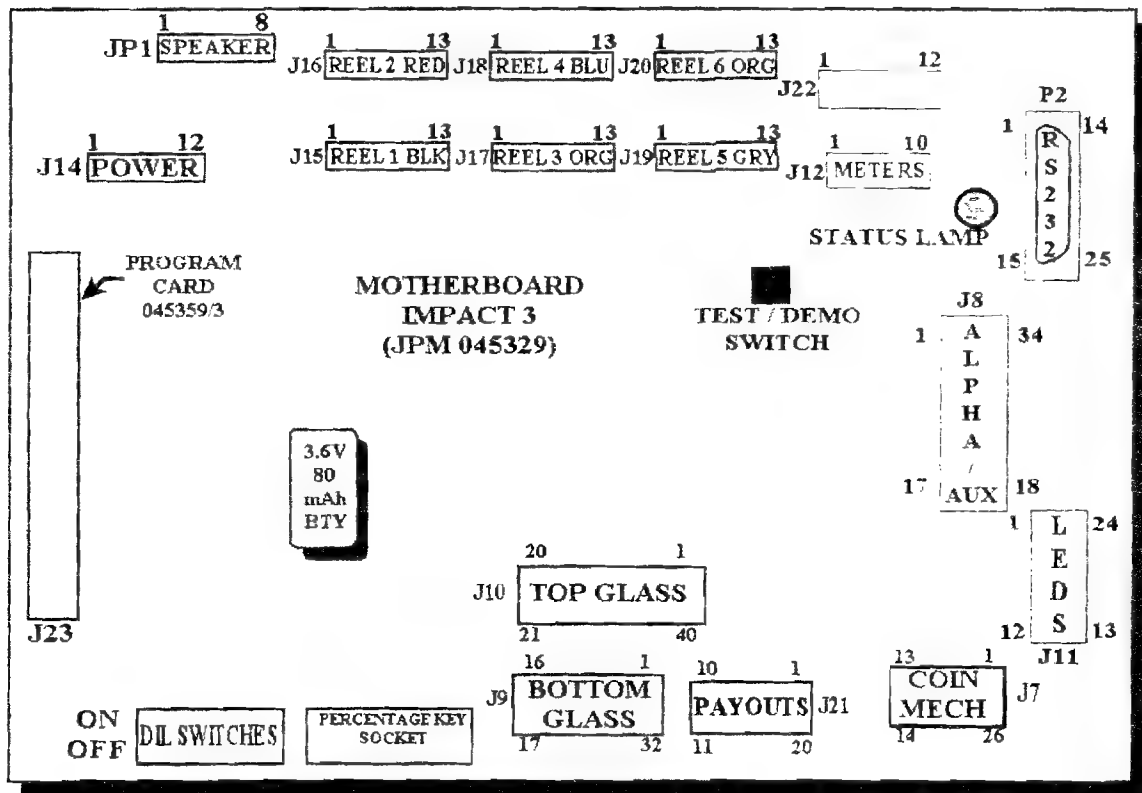
JP2, JP3

JP1, JP2

JP1, JP4



IMPACT 3 Mother Boards



Volume Control

The speaker loom is connected direct to the motherboard. There is no manual adjustment. The sound is adjusted electronically via the test procedure or via a refill mode option between levels 0 and 40. The machine default value level 15.

Speaker/Audio (Connection to motherboard)

PLUG	PIN	WIRE	FUNCTION
JP1	4	GRN/PNK	SPK. REF
JP1	5	PNK/RED	

POWER SUPPLY

PSU - Motherboard connector J14 (12 way MTA)

12	11	10	9	8	7	6	5	4	3	2	1
GRN GND	PUR +12V VMECH	ORG/RED +5VDC	GRN/BLK 0V MUX	GRY 50VDC	PNK -12VDC	PUR +12VDC	POL	GRN/ORG 0V REEL	ORG/BLK +24V	GRN GND	ORG/RED +5V

Power Supply Unit

The power supply unit used is a simple arrangement that provides, except 5v DC, unregulated supplies. The DC supplies are fused and have LED status indicators.

Mains Input

The mains input to the unit is non selectable. Set at 230v AC.



WARNING

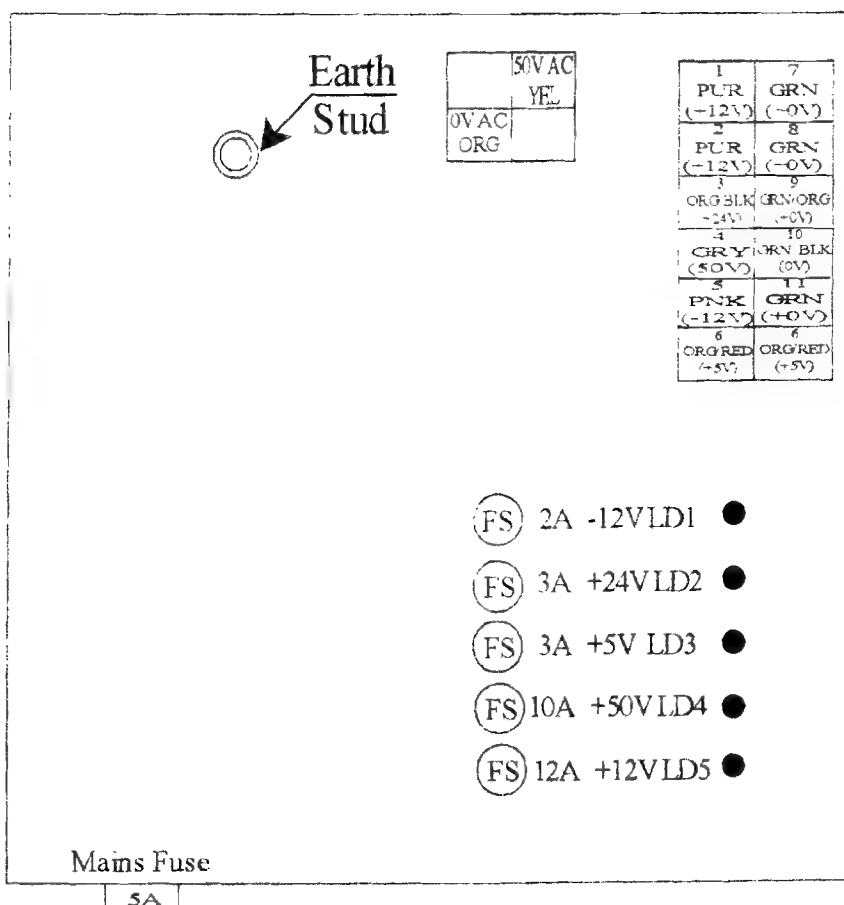
The power supply must be properly earthed via the machines Mains lead
Ensure all Earth connections to the PSU are firmly tightened

Static Sensitivity Circuit

This power supply unit has a static sensitivity circuit built in to it to prevent static damage to internal components.

NOTE:

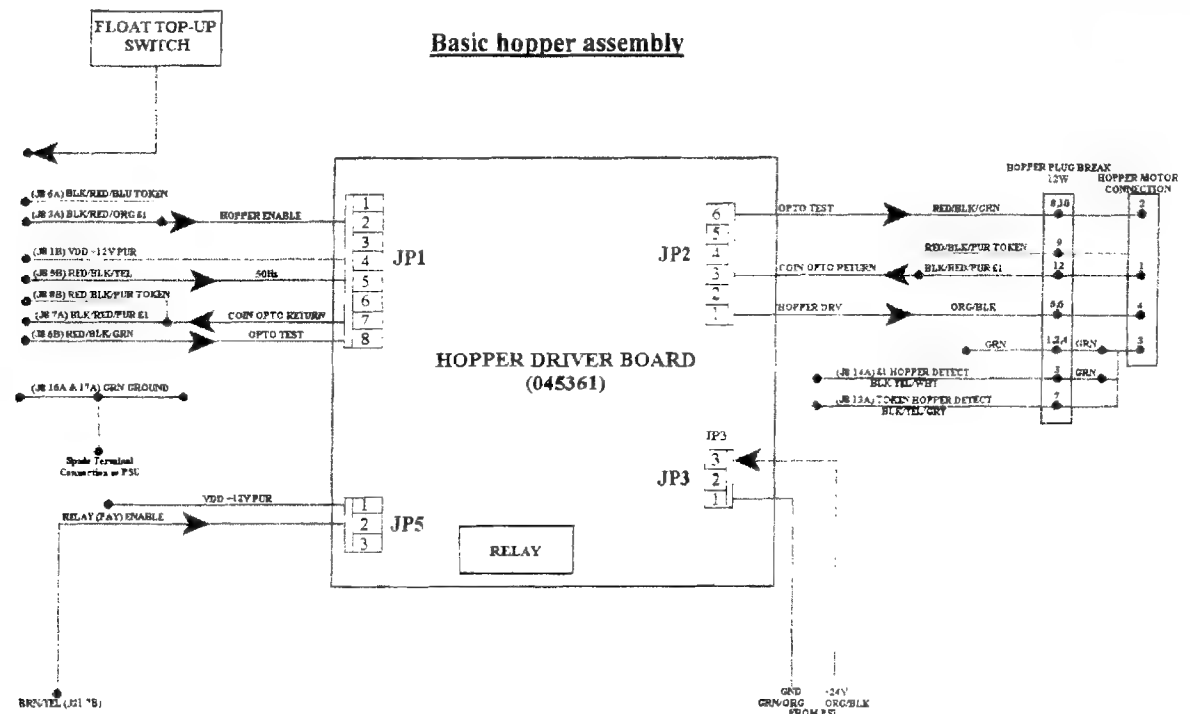
ALL EARTHING BONDS SHOULD BE CONNECTED TO THE PSU EARTH STUD WITH A SUITABLE MAINS EARTH CONNECTION



PAYOUT ASSEMBLY

Hopper Payout Machine

Coins will be routed to the appropriate hopper or cash box depending on the routing plug links fitted



MAINTENANCE - COIN CONTROLS 24V DC HOPPER ASSEMBLY

Hopper Operation:

An LED transmitter and opto-detector form an optical detector. The infrared light beam is routed across the exit slot via a light guide. When coin passes through the exit the light beam will be broken and coin output signal will be generated.

The hopper will automatically brake when power is interrupted, or machine placed in the off state, thus preventing overrun and excessive coin payout.

An over current detection circuit reverses the hopper momentarily in the event of a coin jam, and then attempts to continue payout. This oscillation of the disc will continue until either the coins are freed, the hopper switched off, or the overload trip switches. Should the latter occur the hopper supply must be disconnected, the fault condition must be corrected and the trip be allowed time to cool (Approx. 30 seconds) before the hopper will start.

Routine cleaning:

All accessible parts of the coin route should be cleaned periodically using a mild detergent on a damp cloth. No spray solvents should be used. Particular attention should be paid to the opto sensor at the coin exit to remove any build up of dirt.

Dismantling the Hopper		Hopper Assembly
1	Gently pull outwards the securing clips on the back of the base.	Connect the cable to the motor assembly, ensuring that the 4-pin connector is the correct way round
2	Tilt the bowl forward until it is clear of the clips	Lower the motor assembly into the base, ensuring that the coin exit is at the rear exit position. (Towards Coin exit position as shown on hopper diagram).
3	Slide the bowl forward until the locating lugs, at the front of the bowl, are clear of the slots in the base	Locate the lugs, on the front of the bowl, into the slots at the front of the base.
4	Lift the motor assembly out of the base.	Gently press down until the securing clips, on the base, click into the slots in the bowl.
5	Disconnect the cable from the motor assembly.	

Motor fails to run.	Over payout of coins	Under Payout of coins
Check 24v 3A power supply fuse	Check opto area/ coin exit for dirt.	Ensure hopper contains sufficient coins.
Hopper over-current protective device tripped (Wait 30 seconds while supply off).		Poor connection (check common return wires) to hopper.

C R A C K E R (C L E A R , L A M P S

CRACKER  © 2000

MULTIPLEXED SWITCHES

MAIN GLASS LAMPS & SWITCHES - CONNECTOR J10

	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
A	BLK/BRN RED (SEL 2)	BLK/BRN YEL (SEL 4)	WHT PUR (SW 6)	WHT CRN (SW 4)	WHT ORG (SW 2)	WHT BLK (SW 8)	BLU CRY (SO 14)	BLU YEL (SO 12)	BLU RED (SO 10)	BLU BLK (SO 8)	YEL WHT (SO 6)	YEL PUR (SO 4)	YEL RED (SO 2)	YEL BLK (SO 8)	GRY BLK (SI 10)	PUR WHT (SI 8)	PUR BLU (SI 6)	PUR YEL (SI 4)	PUR RED (SI 2)	PUR BLK (SI 0)
B	NOT USED	BLK/BRN ORG (SEL 3)	WHT CRY (SW 7)	WHT BLU (SW 5)	WHT YEL (SW 3)	WHT BRN (SW 1)	BLU WHT (SO 16)	BLU GRN (SO 11)	BLU ORG (SO 11)	BLU BRN (SO 9)	YEL PKE (SO 7)	YEL CRY (SO 5)	YEL ORG (SO 3)	YEL BRN (SO 1)	GRY BRN (SI 11)	PUR WHT (SI 9)	PUR CRY (SI 7)	PUR GRN (SI 5)	PUR ORG (SI 3)	PUR BRN (SI 1)
	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40

REEL GLASS LAMPS & SWITCHES - CONNECTOR J9

	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
A	BLK/BRN PUR (SEL 7)	BLK/BRN BLU (SEL 4)	WHT CRY (SW 7)	WHT BLU (SW 5)	WHT YEL (SW 3)	WHT BRN (SW 1)	BLU WHT (SO 15)	BLU GRN (SO 13)	BLU ORG (SO 11)	BLU BRN (SO 9)	YEL PKE (SO 7)	YEL CRY (SO 4)	YEL ORG (SO 3)	YEL BRN (SO 1)	GRY CRN (SI 15)	GRY RED (SI 12)
B	NOT USED	BLK/BRN CRY (SEL 6)	WHT PUR (SW 6)	WHT CRY (SW 4)	WHT ORG (SW 2)	WHT BLK (SW 8)	BLU WHT (SO 14)	BLU YEL (SO 12)	BLU RED (SO 10)	BLU BLK (SO 8)	YEL WHT (SO 6)	YEL PUR (SO 4)	YEL RED (SO 2)	YEL BLK (SO 0)	GRY YEL (SI 14)	GRY ORG (SI 13)
	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32

Note: On Impact 3 Mother boards the Coin Inputs are NOT Multiplexed

SWITCH SEL	WHT BLK	WHT BRN	WHT ORN	WHT YEL	WHT GRN	WHT BLU	WHT PUR	WHT GRY
	0	1	2	3	4	5	6	7
BLK/BRN RED 2	STAKES AND PRIZE KEY							
	Pin 2 16	Pin 3 17	Pin 4 18	Pin 5 19	Pin 8 20	Pin 7 21	Pin 6 22	
BLK/BRN ORG 3								
BLK/BRN YEL 4	MAIN DOOR 32	MAIN DOOR 33	STEPS 34	AUTO NUDGE 35				
BLK/BRN GRN 5	START 40	EX CHANGE 41	COLLECT 42	HOLD LO 43	HOLD HI 44	HOLD 1 45	CANCEL 46	
BLK/BRN BLU 6								
BLK/BRN PUR 7			HOPPER DUMP 58	REFILL 59	CASH DOOR N/O 60	CASH DOOR N/C 61		
BLK/BRN GRY 8								
BLK/BRN WHT 9	COIN ACCEPT 1 (£1)	COIN ACCEPT 2 (50P)	COIN ACCEPT 3 (20P)	COIN ACCEPT 4 (10P)	COIN ACCEPT 5 (TOK)	IDENT ACCEPT 6 (5P)		

REEL CONNECTOR & BANDS

Connectors - Mother Board

(Note: See reel band layout for actual number of reels used)

		(J15)	(J16)	(J17)	(J18)	(J19)	(J20)
Pin	Function	Reel 1	Reel 2	Reel 3	Reel 4	Reel 5	Reel 6
1	Lamp Sink	PUR BLK	PUR BLK	PUR BRN	PUR/BRN	PUR/RED	PUR/RED
2	L.Source 0	YEL BLK	YEL ORG	YEL BLK	YEL/ORG	YEL/BLK	YEL/ORG
3	L.Source 1	YEL BRN	YEL PUR	YEL BRN	YEL/PUR	YEL/BRN	YEL/PUR
4	L.Source 2	YEL RED	YEL GRY	YEL RED	YEL/GRY	YEL/RED	YEL/GRY
5	0V	BLK	RED	ORG	BLU	GRY	WHT
6	Opto Return	BLK BRN	RED BLK	ORG BLK	BLU/BLK	GRY/BLK	ORG/BLK
7	-5V	BLK RED	RED BRN	ORG BRN	BLU/BRN	GRY/BRN	ORG/BRN
8	Reel Drive 3	BLK ORG	RED ORG	ORG RED	BLU/RED	GRY/RED	ORG/RED
9	Reel Drive 2	BLK YEL	RED YEL	ORG YEL	BLU/ORG	GRY/ORG	ORG/ORG
10	Reel Drive 1	BLK GRN	RED GRN	ORG GRN	BLU/YEL	GRY/YEL	ORG/YEL
11	Reel Drive 0	BLK BLU	RED BLU	ORG BLU	BLU/GRN	GRY/GRN	ORG/GRN
12	+12V	BLK PUR	RED PUR	ORG PUR	BLU/PUR	GRY/BLU	ORG/BLU
13	+12V	BLK GRY	RED GRY	ORG GRY	BLU/GRY	GRY/PUR	ORG/PUR

Reel Bands

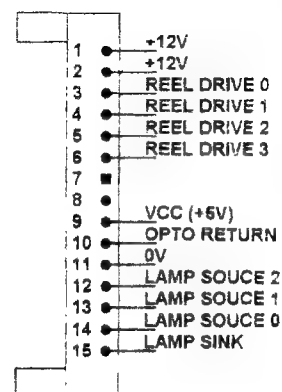
The following applies to the Starpoint JPM reel module

At the top of each reel band is a clear bottom section and contains an adhesive area for fixing. Take the top of the band and insert into the groove, which runs around the inside of the spool. The band should be aligned with the notch in the reel band adjacent to the mark on the spool. This mark is found at the intersection of the spool and the arm containing the photo sensor.

Run the band around the groove. At the top end of the band, peel off the protective coating from the adhesive. Push the bottom of the reel band into the groove and apply sufficient pressure across the width of the band to secure the adhesive.

Slacken the screw and set the angle of the photo arm to correspond to the win line. In so doing, the reel opto will also be set to the required position. The positioning of the motor is set by the manufacturer and should not be adjusted. Once the above instructions have been carried out the reel should now be ready for use. Please read the above instructions are carried out correctly, no misalignments should occur. Any subsequent misalignment therefore indicates problems in other areas such as drive circuitry, motor or the win line.

16 RM REEL



Reel 1	Reel 2	Reel 3
Triple Bar - 1	Triple Bar	Triple Bar (Red Bar)
- 3 Melon	Melon - Red Bar	Melon - Boxed - 1
JPM - Boxed	JPM - Boxed	- 1 JPM
Cherry - Boxed	- 1 Cherry - 1	Cherry (Red Bar)
Single Bar + 2	Double Bar	- 3 Single Bar - Boxed
Grape - Boxed	- 1 Grape	Grape - Boxed - 1
+1 Bell	Bell - Boxed	Bell
Pear - Boxed	Pear - 1	Pear - Boxed
+ 2 Melon - Boxed	Melon - Boxed	Melon - 2
Single Bar + 1	Double Bar	- 2 Single Bar
JPM	- 2 JPM	JPM - Boxed
+ 1 Pear (Red Bar)	Pear - Boxed - 2	Pear
Double Bar - Boxed + 3	Single Bar	Double Bar
Grape	Grape - Boxed - Red Bar	- 1 Grape
Bell - Boxed - (Red Bar)	Bell	Bell - Boxed - 3
Cherry	+4 Cherry - Boxed + 4	Cherry - Boxed

Hi Lo Reel
12
7
10 Bonus
3
4
7 Bonus
8
1
6 Bonus
11
10
3 Bonus
6
9
2
5

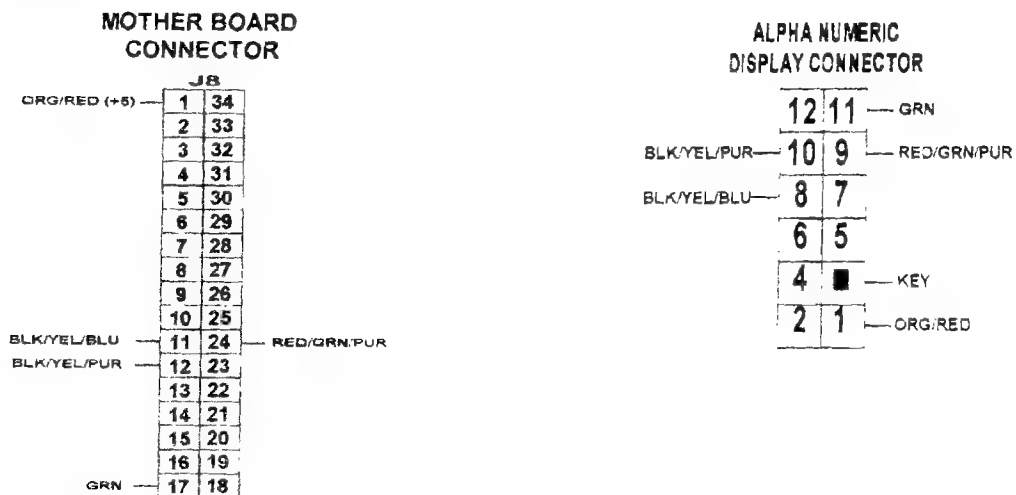
DISPLAY

LIST OF DISPLAYS USED:

1 x Alphanumeric display - Credits/In game instructions

ALPHANUMERIC DISPLAY

The connections to the ALPHANUMERIC display from the MOTHERBOARD are as follows:



COIN MECHANISMS

Binary Coded Output (B.C.O.) MECHS

BINARY CODE FUNCTION. When a coin is validated by the mech. a 5 bit Binary code is sent to the motherboard (on accept line 1-5) for a credit to be made. For a credit to be valid accept 4 must be high. The Mars CASH FLOW and Coin Controls C435A mechs are capable of operating in both Binary and Dedicated (Parallel) coin output modes. The Select line pulled to 0V selects the Binary mode of operation.

Coin Routing

(Active routing of £1 & 20p controlled by Coin Count)

£1 to Route D excess to Route B (cashbox)

Token to Route C excess to Route A (cashbox)

£2 to Route B (cashbox)

All other coins routed to Route A (cashbox)

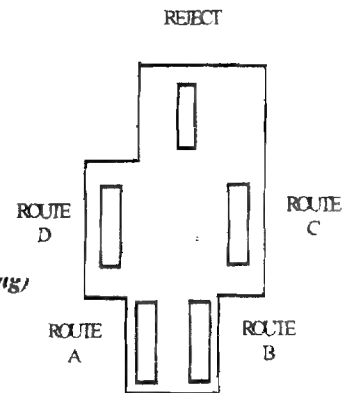
Mars - Cash Flow Mech

Coins Accepted: 5p, 10p, 20p, 50p, £1, £2, Token

ROUTING PLUG: 22 WAY (Diodes fitted, arrow indicates direction facing)

Cash Payout - £1 Hopper only fitted

1 ← 13, 2 ← 22, 14-20



Green Diagnostic Led

Provides the user with visual indication of the means current operation and

Viewed from above.

1. LED ON = Power ON
2. LED OFF = Power OFF
3. LED will **flash OFF** once when Coins or Tokens are accepted or if reject Lever is pressed.
4. LED will **flash OFF** twice if Coin or Token is unrecognised.
5. LED will **flash OFF** three times if a coin or machine has inhibited Coin or Token.
6. LED will **flash continuously** when in Token Teaching Mode.

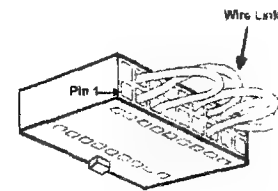
Coin controls C435A MECH

Coins Accepted: 5p, 10p, 20p, 50p, £1, £2, Token

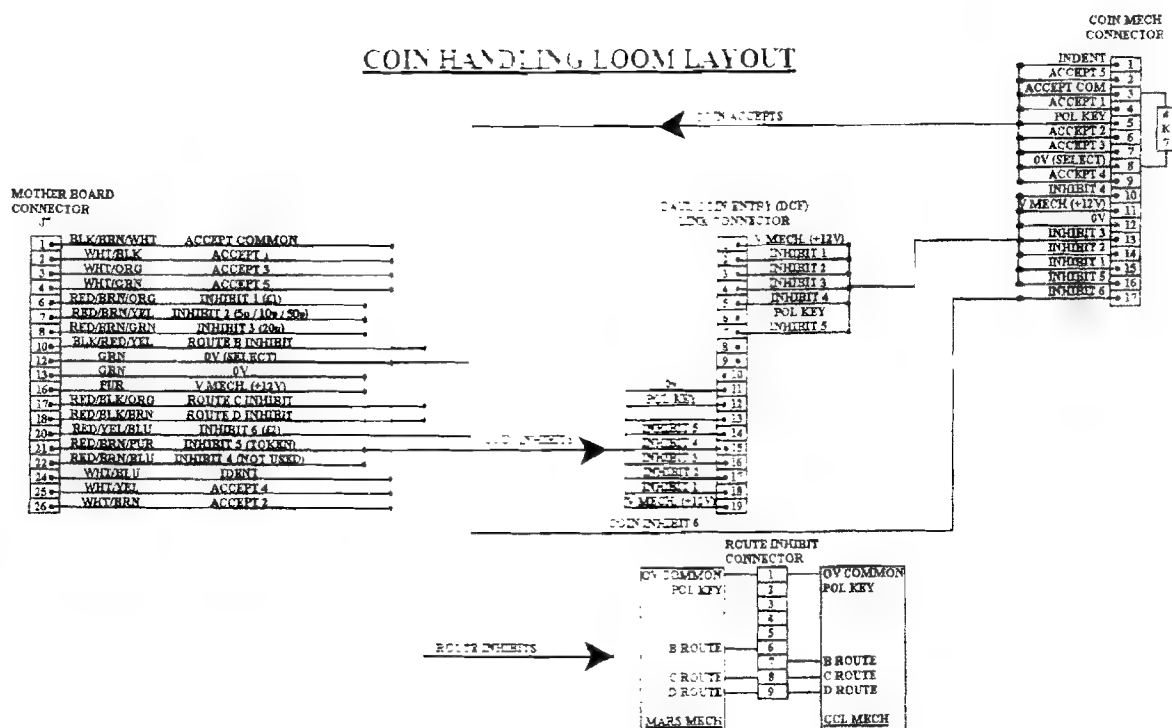
ROUTING PLUG: 18 Way (Diodes fitted, arrow indicates direction facing)

Cash Payout - £1 Hopper only fitted

7-8, 5-13, 7 → 15, 15 ← 17



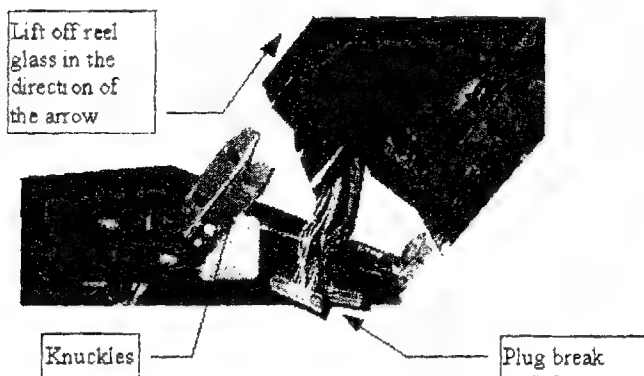
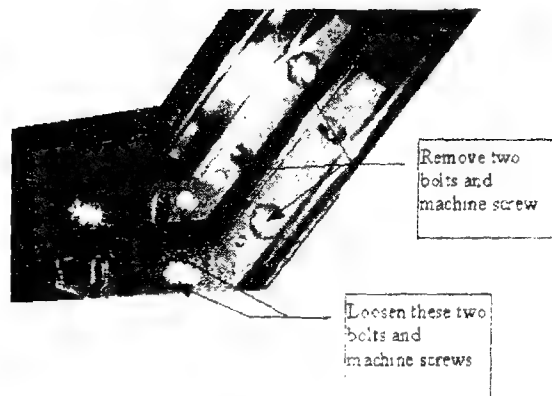
COIN HANDLING LOOM LAYOUT



GLASS CHANGE INSTRUCTION

REEL GLASS REMOVAL

- Remove the two plug breaks connecting the looms to the reel glass.
- Remove two large bolts on both sides and one small machine screw (see picture).
- Loosen the two bolts and the machine screw on the knuckle attached to the main glass assembly.
- Carefully lift off the reel glass assembly.
- Remove the two black rubber strips from behind the vacuum forming.
- Remove the button switches from the switch assemblies to free the glass.



REFITTING REEL GLASS ASSEMBLY

- Refit the glass to the assembly and ensure the rubber strips are refitted.
- Offer the assembly up to the main glass and fit on to the knuckles. Ensure that the bottom glass assembly fits flush to the top glass assembly; it may be necessary to loosen the centre extrusion bar to achieve this.
- Replace the bolts and tighten.
- Connect the two plug breaks.

MAIN GLASS REMOVAL

Note: In order to facilitate main glass removal this machine incorporates a plug break. The **Stakes & Prizes key**; **Main door switch**; **cash door switch**; **Refill key switch** and the **Hopper dump switch** are all connected to the motherboard via this plug break.

- To remove the Main glass it will be necessary to remove the reel glass assembly first (as described above).
- **Note:** The vacuum forming and the looming cannot be removed from the machine. As the main glass is adhered to the vac. forming with double sided tape it will be necessary to remove the reel units so that once the glass along with the vac. forming has been removed it can be balanced on the reel shelf.
- Release the cable looms to the main glass from the cable clips on the back of the machine as far as the motherboard. Also release the coin mech. lamp loom and the loom to the refill lamp.
- Remove the center extrusion - by unscrewing the two machine screws.
- Remove the three rubber strips around the main glass.
- Carefully lower the main glass and stand it on the reel shelf.
- Remove any button assemblies from the main glass.
- The main glass can now be removed from the vacuum forming.

REFITTING MAIN GLASS

- Offer the main glass up into position and secure in place with the center extrusion
- Refit the three rubber strips.
- Refit the cable looms using tie-wraps where necessary.
- Ensure machine screws and nuts & bolts are re-secured.

STAKES & PRIZE OPTIONS

STAKES & PRIZES OPTIONS

The following Stakes and Prize options are available.

£15	20p 25p 30p
£8	5p 10p
£5	5p 10p 20p 25p 30p

Note: For multistake option a 30P stake / prize key is fitted as standard.

Other options may be made available on later program updates, to confirm up to date machine Price of Play (POP) & Jackpot options contact JPM Customer Services Department

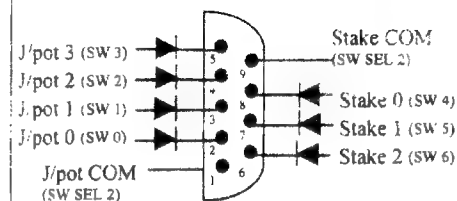
STAKES & PRIZES KEY

Price of Play (POP) and Jackpot options are selected when appropriate Stakes/Prize key (9 pins D type male connector) is fitted. See diagram and chart below for link allocations of Stakes/Prize connector to select various stakes & prize option.

Note: If no Stakes/Prize key is inserted in Stakes Prize connector the machine will fail to set up and will alarm / display error message.

STAKE	PRIZE KEY LINKS		
	£15	£8	£5
30p	6-9 5-1 1-2	NO OPTION	6-9 5-1
25p	7-9 8-9 1-5 1-2	NO OPTION	7-9 8-9 1-5
20p	7-9 1-2 1-5	NO OPTION	7-9 1-5
10p	NO OPTION	8-9 1-2 1-4	8-9 1-5
5p	NO OPTION	1-2 1-4	1-5

ALLOCATIONS FOR FIXED STAKES / PRIZE CONNECTOR ON MACHINE
(Positioned on side of cabinet)



PERCENTAGE KEY

The percentage key can only set the percentage payout of this machine. There is no adjustment via the test routine.

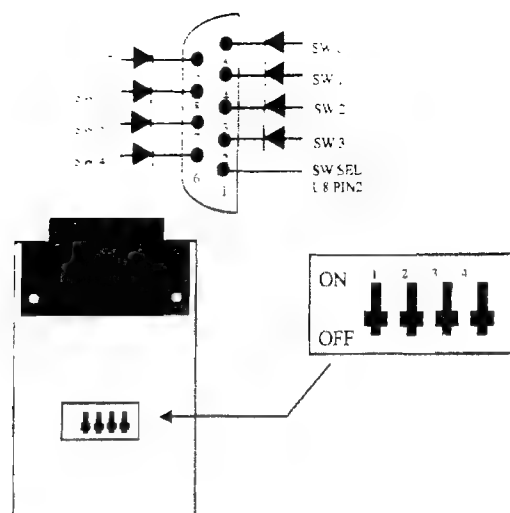
The wiring allocations for the on board percentage connector are as per the diagram on the right.

An adjustable % key (see diagram below) can be used and set as per the table below

Note: ON = link from SW? to SWSEL common pin 1).

PERCENTAGE	1 SW1	2 SW2	3 SW3	4 SW4
INVALID	OFF	OFF	OFF	OFF
70	ON	OFF	OFF	OFF
72	OFF	ON	OFF	OFF
74	ON	ON	OFF	OFF
76	OFF	OFF	ON	OFF
78	ON	OFF	ON	OFF
80	OFF	ON	ON	OFF
82	ON	ON	ON	OFF
84	OFF	OFF	OFF	ON
86	ON	OFF	OFF	ON
88	OFF	ON	OFF	ON
90	ON	ON	OFF	ON
92	OFF	OFF	ON	ON
94	ON	OFF	ON	ON
96	OFF	ON	ON	ON
98	ON	ON	ON	ON

PERCENTAGE KEY CONNECTOR
(9 Pin D type)





METERS & BOOKKEEPING

SERIAL METER

The main points on S.E.C operation are listed below:

Roll over detection	When a meter rolls over from 9999999 to 0, this is noted by the S.E.C so the host machine can alert staff if required.
Serial Communications	Meter values cannot be incremented by battery-type frauds, looming shorts etc. This method also means that "lost" meter pulses can be identified and resent so all meter increments are performed.
Electronic Storage	Meter values cannot be tampered with. Values can be read by the host AWP and displayed locally (on the alpha display) or be transmitted to a remote audit system. Meter values remain on the S.E.C when power is removed. They cannot be decremented or cleared down to zero.
Unique fingerprint	A host machine can read this fingerprint and so it can tell when an S.E.C has been moved from one machine to another.

The S.E.C cannot show all 15 meters simultaneously, so it shows as default the value of meter 0. In standard AWP applications, this is used as the refill meter. When other meter values are required, the host machine can instruct the S.E.C to show other meters or to send the meter data directly back to the host machine so it can be shown on a display (e.g. alpha).

METERING DETAILS (All meters are in 10p units)

METER OUTPUTS			
PLUG	PIN	WIRE COLOUR	FUNCTION
JP8	8	BLK/RED/GRY	EXP 10
JP12	1	RED/BLK	METER OP 0
JP12	2	RED/BRN	METER OP 1
JP12	6	RED/GRN	METER OP 5
JP12	9	PUR	+12V
JP12	10	GRN	0V GND

Electronic Bookkeeping

<u>REFILL KEY</u>	<u>HOLD 2</u>	<u>HOLD 3</u>	<u>COLLECT</u>	<u>START</u>
With door open and refill key turned the display will show: PND FLOAT = 0.00	Return to beginning of Bookkeeping	To display: Bookkeeping	Enter Bookkeeping	Display: 2. FLOAT = 1

GAME No	=	0
200P IN	=	0
100P IN	=	0
50P IN	=	0
20P IN	=	0
10P IN	=	0
5P IN	=	0
20T (Token) IN	=	0
100P OUT	=	0
20P OUT	=	0
20T (Token) OUT	=	0

If the CANCEL button is pressed during reading of BOOKKEEPING information "WARNING" will be displayed on the display. If CANCEL is pressed again all BOOKKEEPING settings will be set to zero.



REFILL & DUMP PROCEDURE

REFILL PROCEDURE

LICENSEE REFILL

Licensee refill mode is entered by the operation of the refill key switch with **both top and cash doors closed**. The Refill Routine will be entered and REFILL MODE will be seen on the display.

In addition the following options are also available to the Licensee:

- (i) Press HOLD 1 to enter the SOUND TEST. Press the *HOLD 2* button to increase the volume and HOLD 3 to decrease.
- (ii) Pressing the CANCEL button, and holding down, will display your Last Award (Win).
E.g. Last Win = 6.00
- (iii) Pressing the START button, and holding down, will allow you to view your Last Bank value.
E.g. Last Bank = 12.00

Licensee refill is exited by removal of the refill key.

COLLECTOR REFILL

Collector refill is accessed by the operation of the refill key switch with the cash door open. Once accessed both, coins and tokens may be inserted and once the hopper/s are full all coins will overflow to the cash box. During collector refill meters are not incremented.

Removing the refill key and closing the cash door exeunt collector refill.

Collector - Reading of meters

To read meters open the cash door and press the left hand button on the button panel, you do not need a refill key. The first meter reading displayed (meter 0) on the SEC display is likely to be the refill meter. Apart from being displayed on the SEC display the reading can also be displayed on the machine display (e.g. Alpha display). To read other meter readings (cash in, cash out etc) press the left hand button, which will move the display on to the next set of readings. The 2nd from left hand button will step back to the previous reading with the rightmost button causing the machine to exit the meter function.

Part 1 - A & B Calculations

To Calculate Cash Payout Percentage (POP) (EXCLUDING REFILL)

$$POP = \frac{CASH \text{ OUT}}{CASH \text{ IN}}$$

To Calculate Cash In Box

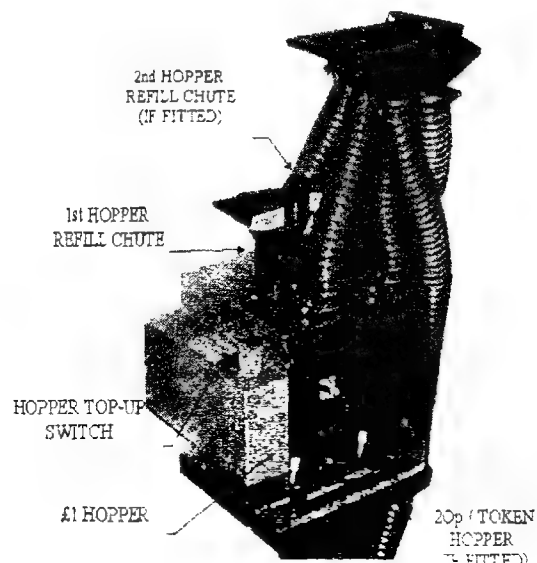
First calculate token redemption

$$GROSS \text{ TAKE} = CASH \text{ PLAYS} + CASH \text{ WON}$$

REFILL & DUMP PROCEDURE

COLLECTING CASH, VERIFYING HOPPER FLOAT

1. Ensure the machine is powered up.
2. Open only the **Cash doors** and turn the **Refill key**.
3. Press the **Hopper Dump** switch (confirmed by a till sound).
4. Message "*dump pound float*" will be displayed. The Start and Cancel buttons will flash.
5. Press **Start** to begin dump procedure or **Cancel** to abort.
6. The £1 float is dumped out of the hopper into the payout tray.
7. If the amount dumped is the standard float value, there may be **EXCESS** coins in the hopper. The Display will show "*dump pound balance*". Place the amount dumped to one side and press the flashing **Start** button to dump the excess coins. The number of excess coins will be shown on the display. Return the excess coins into the cash box. If there are no excess coins the hopper turns but no further coins are dumped. After 3 seconds the hopper stops and the **Start** button light extinguishes.
8. If the amount dumped is less than the standard float value the display shows "*pound dumped*" and "*short by*".



If Refilling Hopper With a Standard Float Value (AWP/CLUB)

9. Open the **Main door** and turn the **Refill key**. Place the standard float into the labeled **Hopper Refill Chute**.
10. Press the **Hopper Top Up Switch** (cash register sound). This will set the Hopper coin count/s to the standard float value.
11. Remove the **Refill key**, close and lock the **Main door**. Remove cash from **Cash Boxes**, close and lock **Cash Doors**. The machine will re-initialise.
12. For hopper float confirmation see final check.

If Refilling Hopper With Previously Dumped Float of Less Than The Standard Float Value

9. Open the **Main door** and place the float value/s into the labeled Hopper Refill Chute.
10. **DO NOT PRESS** the **Hopper Top Up Switch**.
11. Close and lock the **Main door**. Remove cash from **Cash Boxes**, close and lock **Cash Doors**. The machine will now re-initialise.
12. For hopper float confirmation see final check.

AWP STANDARD FLOAT LEVELS

ALL CASH-
£1 HOPPER= £125

TOKEN OPTION
£1 HOPPER= £120
Tkn HOPPER= £120 600 Tokens)

CLUB STANDARD FLOAT LEVELS

£1 HOPPER
£250.00 (£75 £100 J/pot) or
£300.00 (£150 J/pot) or
£370.00 (£200 £250 J/pot)

NOTE ACCEPTOR

1. Open the note vault and remove the notes.
2. Take 'Notes In' meter reading.

AWP £15 J pot Float=£250 (lock out at £50)

FINAL CHECK

TO CONFIRM FLOAT IS SET AT CORRECT LEVEL RE-OPEN THE CASH DOOR AND TURN THE REFILL KEY.

FAULT FINDING

The Error & Event codes should be consulted to give guidance as to possible faults when they occur. Fault and Event codes generated by the machine are logged and can be listed in test five. This can be useful when trying to identify common fault trends. Also to assist you, listed below are a few fault conditions with some possible causes in each case:

1. **MACHINE NOT INITIALISING**
 - A. No mains supply or blown fuse. Check power supply LED's.
 - B. Mains voltage too low
 - C. Faulty or incorrectly seated EPROM's. (Check Status and Reset LED's)
 - D. Faulty processor card or mother board.
2. **MACHINE REJECTING COINS/TOKENS**
 - A. Coin validator faulty or dirty.
 - B. Inhibits from motherboard, DCE unit faulty or Motherboard faulty.
 - C. Bad connection between motherboard and coin validator.
 - D. Coin jam.
 - E. No data capture communication. Check in test.
 - F. Permanent coin alarm.
 - G. Mech not programmed to accept coin/token
3. **MACHINE ACCEPTS COINS/TOKENS WITHOUT GIVING CREDIT**
 - A. Bad connection between motherboard and coin validator.
 - B. Faulty coin validator.
 - C. Machine in refill mode.
 - D. No output common voltage from motherboard. Faulty motherboard.
4. **REEL ALARM OR INCORRECT ALIGNMENT**
 - A. Bad contacts on reel drum
 - B. Reel catching on other internal parts of machine
 - C. Faulty reel motor
 - D. Broken Into Tap or faulty photo sensor (check LED extinguishes when passing sensor).
 - E. Reel amp array misaligned
5. **MACHINE ALARM ON GAME START PAYOUT**
 - A. Meter assembly faulty
 - B. Bad contact between meter and motherboard
 - C. Mother board faulty
6. **MACHINE NOT PAYING OUT**
 - A. Faulty Hopper or Hopper drive PCB
 - B. Faulty Hopper internal or external solenoids to motherboard or drive PCB (check connectors).
 - C. 24V DC fuse blown on PCB
 - D. Machine in disconnected mode. Check coin solenoids
 - E. No coins or coins jammed in hopper
 - F. Faulty motherboard

ERROR & EVENT CODES

Error Codes: (Bacta 6 Standard Codes in Bold)

<i>Code</i>	<i>Sup</i>	<i>Description</i>
00	00	Unknown Error Occurred
01	00	Payout Verification Error
01	40	Non Payout 5p Cash
01	41	Non Payout 10p Cash
01	42	Non Payout 20p Cash
01	43	Non Payout 50p Cash
01	44	Non Payout 100p Cash
01	49	Non Payout 10p Token
01	4A	Non Payout 20p Token
01	4B	Non Payout 50p Token
01	4C	Non Payout 100p Token
10	00	Payout Value Negative
10	01	20 Token Coin In Fault
10	02	ME129 More than 1 line high
11	00	£1 coin in fault
12	00	50p coin in fault
13	00	20p coin in fault
14	00	10p coin in fault
15	00	20p Token coin in fault
16	00	Note Acceptor Fault
19	00	Strim Error
20	00	General Reel Error
20	01	Reel 7 Opto Check Error
20	02	Reel 8 Opto Check Error
20	05	Reel Loom - Reel Error
21	00	Reel 1 Opto Check Error
22	00	Reel 2 Opto Check Error
23	00	Reel 3 Opto Check Error
24	00	Reel 4 Opto Check Error
25	00	Reel 5 Opto Check Error
26	00	Reel 6 Opto Check Error
30	00	General Lamp Failure
40	00	General Operational Errors
40	01	Back Door Open
40	02	Back Door Closed
40	03	Cash Door Open
40	04	Cash Door Closed
40	05	Test Routine Activated
41	00	Refill Mode Entered
42	00	Memory Cleared
43	00	Button Stuck
44	00	No % key
46	00	Call Attendant
47	00	Refill Required
45	00	Payaim change occurred
48	00	On/Off Tamper Alarm
49	00	No Stakes / Prizes Keys
50	00	General Electronic Problems
51	00	EPROM Failure
52	00	PAL Error
53	00	Ram Check Fail

<i>Code</i>	<i>Sup</i>	<i>Description</i>
54	00	Hardware Error
55	00	Sparking Detected
56	00	PSU Fail
57	00	Hopper optic
60	00	General Meter Fault
60	01	Meter Detect Fail, 7
60	02	Meter Detect Fail, 8
61	00	Meter 1 -(Cash In) Fault
62	00	Meter 2 -(Cash Out) Fault
63	00	Meter 3 -(Token In) Fault
64	00	Meter 4 -(Token Out) Fault
65	00	Meter 5 -(Refill) Fault
66	00	Meter 6 -(Prizes Out) Fault
70	00	General Data port Error
70	07	BBX Lock Up
70	08	BBX Buffer Full
70	01	Data Carrier Lost Error
70	02	Framing Error Detected
70	03	Over Run Error
70	04	Parity error
70	05	Black box NAK other rec'd
70	06	Black box Called And Active
71	00	Waiting for Data port
72	00	Faulty Comms Link
88	00	Program Change
90-9f		Manufacturer Software Alarms
90	00	Attempt To Divide By Zero
90	01	Hundred Ports List Full
90	02	Processor Bus Error
90	03	Address Alignment Error
90	04	Illegal Instruction
90	05	Auto section Warning
91	00	Illegal Mode
91	01	Control Printer Limited
92	00	Main board Access Violation (S.A)
92	01	Credit Game Negative
92	02	Hopper Fraud Pulses seen
93	00	Data Logger Failed
93	01	Writing to Data Logger
94	00	Vend Out Not Seen, 1
94	01	Vend Out Not Seen, 2
94	02	Vend Out Not Seen, 3
94	03	Vend Out Not Seen, 4
94	05	Vend Tamper, 1
94	06	Vend Tamper, 2
94	07	Vend Tamper, 3
94	08	Vend Tamper, 4



CUSTOMER SERVICES & SUPPORT



CONTACTS


CONTACTS


Customer Service & Support

If you have a technical problem that you are unable to resolve then contact the supplier of your machine in the first instance.

If, after this, further technical or spares assistance is required then contact the JPM GROUP

Customer Services Department on:

 029 2022 3000

 029 2022 5460

Monday to Friday 8.30am to 5.00pm

Program Updates

All program updates for this machine can be obtained and downloaded from the following Bulletin boards (BBS):

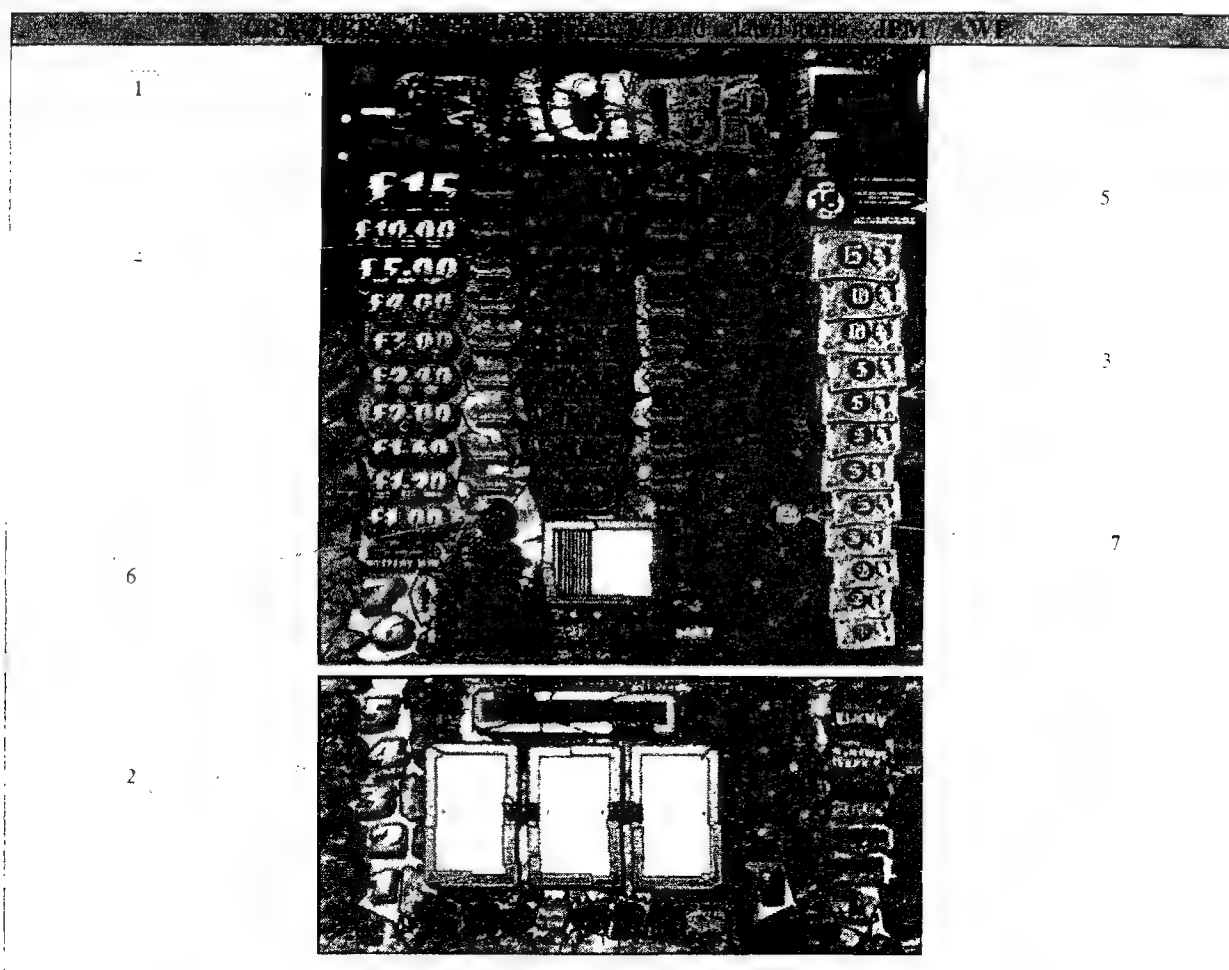
JPM International Ltd - 029 2066 8752

ACE Coin Equipment Ltd - 029 2022 5570

Internet

Further information can be found at - www.jpm.co.uk

PART No.'s



Button Panel

Legends	Cancel	Hold	Hold / Hi	Hold / Lo	Collect	Exchange	Start
Button type	Single	Single	Dual	Dual	Single	Single	Single
Legend Pt. No.	245042	245054	245055	245057	245044	245060	245048
Button Pt. No.	531607	531607	531608	531608	531607	531607	531607
Lamp/Sw.	531607/4	531607/4	531607/4	531607/4	531607/4	531607/4	531607/5

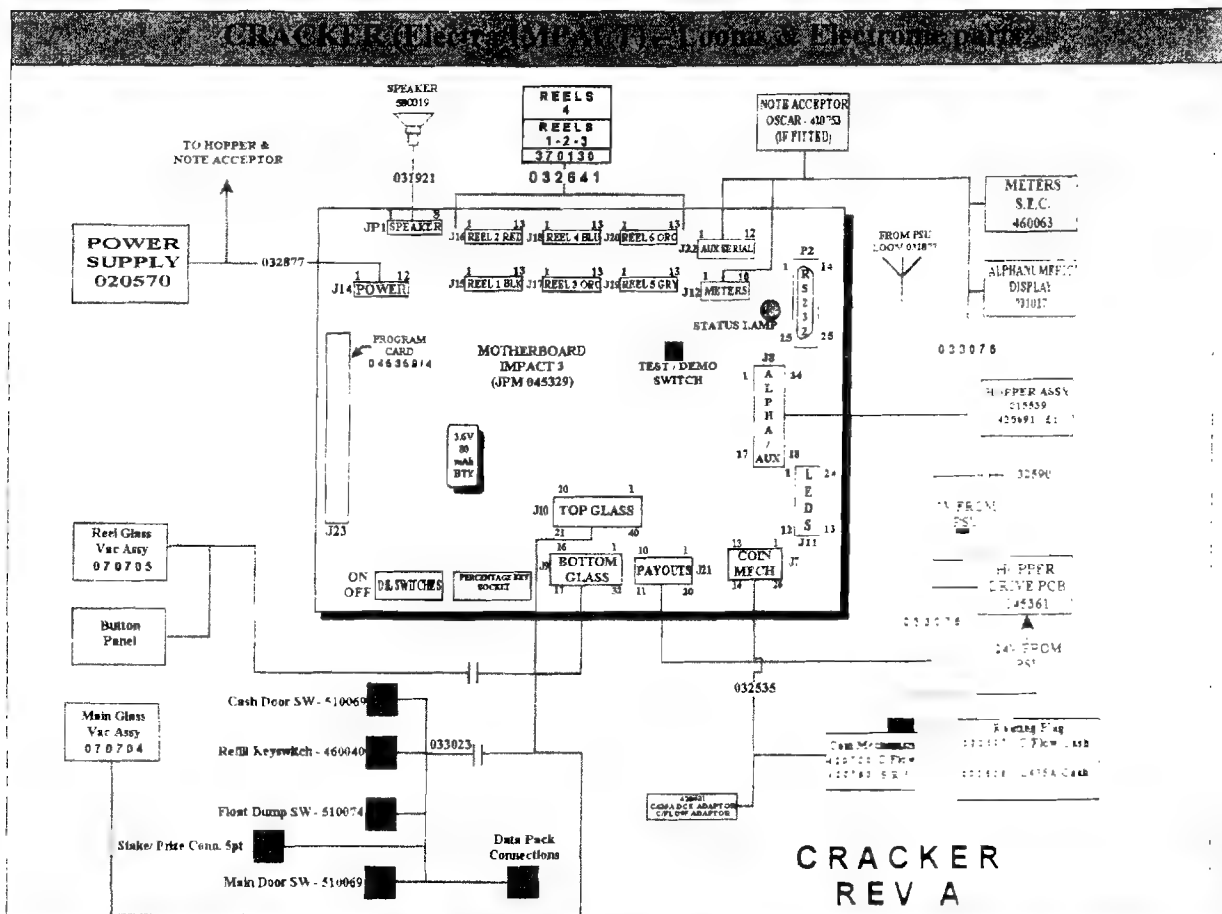
Feature Buttons

Legend	Steps	Auto Nudges	
Item number	6	7	
Button type	GPB	GPB	
Legend Pt. No.	248114	248115	
Button Pt. No.	531700	531723	
Lamp/Sw.	531607/4	531607/4	

Artwork

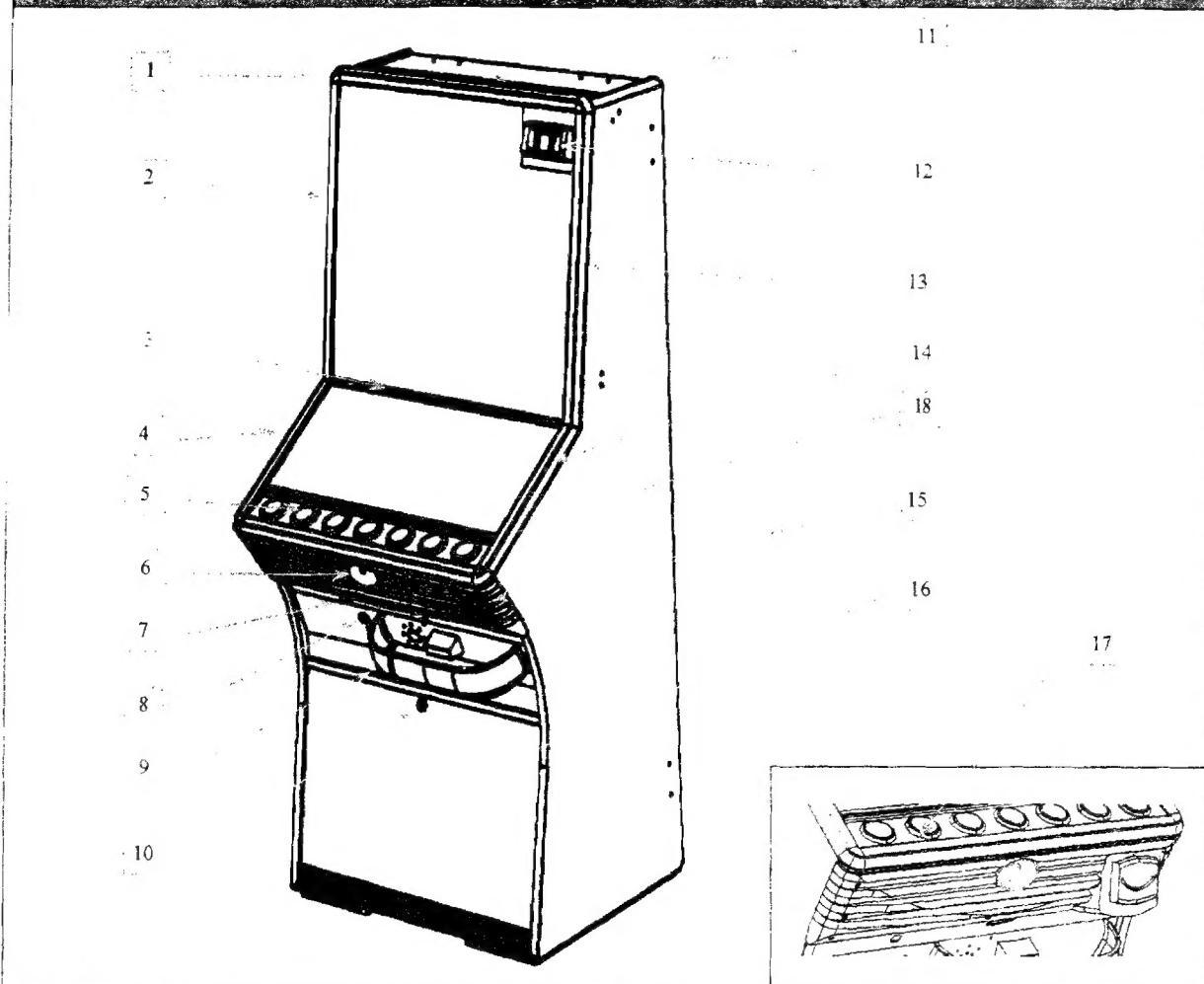
No	Item Description	£15 Kit		£8 Kit		£5 Kit			
3	Decal - Note Award Card MG	248111		248112		248113			
4	Decal - Card Award Mg	248108		248109		248110			
5	Decal - Disclaimer	247972		TBA		TBA			
-	Stakes & Prize key	30p	500372	10p	500293	30p	500352	10p	500354
-	Stakes & Prize key	25p	500373	5p	500286	25p	500356	5p	500353
-	Stakes & Prize key	20p	500374			20p	500355		

No	Item Description	Part No.	No	Item Description	Part No.
1	Main Glass	248105	2	Reel Glass	248106
1a	VF/LM	070704	2a	VF/LM	070703
1b	VF	216482	2b	VF	216483
			N/a	Reel band set	248107
N a	5mm Red Bulb	540116/1			
N a	5mm Green Bulb	540116/4	N/a	5mm Bulb Holder	540118
			N/a	5mm Bulbs	540116



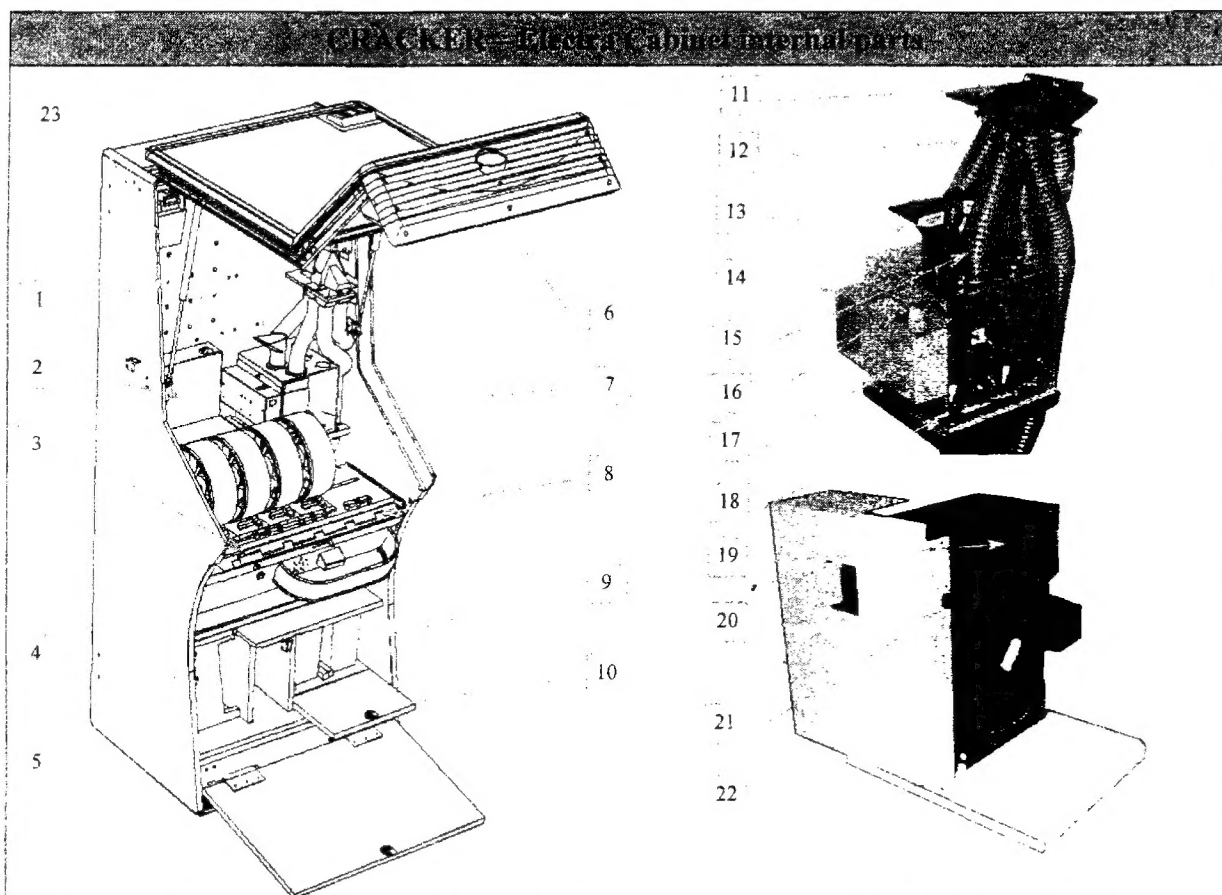
Item No.	Part No.	Description	Information
	015539	KIT-SINGLE HOPPER ASSY-EL	
	020570	(C)ASSY.PSU IMPACT UK (EMC)	
	031921	SPEAKER LOOM	
	032535	(E)COIN HAND LM REV COIN ENTRY	
	032537	A)C/FLOW ROUTE PLUG POUND HOPP	
	032538	A)C435 ROUTE PLUG POUND HOPPER	
	032641	(D)LOOM, 4 REEL	
	032590	E-LOOM.HOPP DRIVE £1 ONLY MK3	
	032877	(B)LOOM, POWER SUPPLY	
	033023	A-LOOM-PLUG BREAK & BLACK BOX	
	033076	A-LOOM-MAIN BOARD/SERIAL METER	
	045283	VARIABLE % KEY	
	045329	(Q)IMPACT 3 MOTHERBOARD	
	045359/4	B-IMPACT EXP MEM MK II (ST)	
	045361	B-IMPACT SINGLE HOPPER BOARD	
	370130	(A)16M REEL MODULE-IMP/370123	
	420631	(A)DCE ADAPTOR SUB 162	
	420691	A)HOPP,£1 CASH COMPACT NO BASE	
	420720	A-CASHFLOW-DFX 126 ENHANCED	
	420753	ACCEPTOR-NOTE-NV4-DUAL UK	
	420793	COIN MECH - TOP ENTRY SRS	
	460040	K/SWITCH INLINE K/A 5015-01-04	
	460063	A-METER-SEC-PL3758	
	510069	(A)SWITCH,UF79-00AB-IMPACT	
	510074	(A)ROCKER SWITCH C1501 ATY	
	580019	A-SPEAKER-4"8OHM-8W-SLP/791722	
	731017	MOD.12.5MM STARBURST VAC.FLUOR	

CRACKER - 11500 - 12000 - 13000 - 14000 - 15000 - 16000 - 17000 - 18000 - 19000 - 20000 - 21000 - 22000 - 23000 - 24000 - 25000 - 26000 - 27000 - 28000 - 29000 - 30000 - 31000 - 32000 - 33000 - 34000 - 35000 - 36000 - 37000 - 38000 - 39000 - 40000 - 41000 - 42000 - 43000 - 44000 - 45000 - 46000 - 47000 - 48000 - 49000 - 50000 - 51000 - 52000 - 53000 - 54000 - 55000 - 56000 - 57000 - 58000 - 59000 - 60000 - 61000 - 62000 - 63000 - 64000 - 65000 - 66000 - 67000 - 68000 - 69000 - 70000 - 71000 - 72000 - 73000 - 74000 - 75000 - 76000 - 77000 - 78000 - 79000 - 80000 - 81000 - 82000 - 83000 - 84000 - 85000 - 86000 - 87000 - 88000 - 89000 - 90000 - 91000 - 92000 - 93000 - 94000 - 95000 - 96000 - 97000 - 98000 - 99000 - 100000



Item No.	Part No.	Item Description	Stock/Order Information	
-	020597	CASTOR SET ELECTRA		
16	020687	OUTER CASH DOOR ASSY. (with HINGE & LOCK)		
18	060213	CAB ASSY ELECTRA		
10	170010	DOOR LOCK - OUTER CASH		
7	170030/1	DOOR LOCK - MAIN		
15	210424	FRONT FACIA (JPM)		
17	210471	FRONT FACIA RHS N.A.		
6	245002	JPM BADGE		
12	420602	ENTRY BEZEL (SINGLE ENTRY)		
12	420621	ENTRY BEZEL (SINGLE ENTRY) SR5		
8	460040	DOOR LOCK REFIL		
ELECTRA CABINET EXTRUSIONS - DARK BLUE				
3	140529/8	EXTRN CENTRE OUTER BLK		
14	140530/1	EXTRN-RG/RH		
4	140531/1	EXTRN-RG/LH		
11	140569/1	EXTRN-TOP		
2	140570/1	EXTRN-MG/LH		
13	140571/1	EXTRN-MG/RH		
9	140579/1	P/O TRAY MK2		
5	140594/1	BUTTON PANEL (7 BUTTON)		
1	160059	CORNER CASTING (SILVER)		

PART No.'s



Item No	Part No	Item Description	Stock Control Information		
			On Stock	On Order	JPM Availability
8	020659	LOCK ASSY ELECTRA			
4	063284/5	A-DOOR-INNER CASH-ELECTRA MK4			
6	090133	SECURITY PLATE KIT(Wheels -110075, Crimps- 360078)			
-	100524	SPEAKER GRILLS			
5	101222	(A)BRACKET,OUTER CASH DOOR			
-	101549	EXTENDED CAM FOR 020659			
23	101567	REEL SHELF BRACKET			
14	101615	(E)HOPPER DRIVE BRD ENCLOSURE			
23	101651	PLATE FEATURE REEL SUPPORT			
8	120786	LOCK ASSY ELECTRA FOR RHS N.A			
8	120788	A-PINNED ACTUATOR-SHORT			
1	130109	GAS STRUT ELECTRA (NEW VERSION)			
10	170011/1	DOOR LOCK INNER CASH			
15	230035/2	A)FLEXI-HOSE COLLAR-SHORT ENTY			
-	230114	MAINS PEDESTAL			
9	230181	CASH BOX			
3	230189	REEL BASE WIDE (STARPOINT)			
11	230239	(D)MOULDED COIN MANIFOLD			
13	230249	A-FUNNEL HANDFIL-ELECTRA			
12	260003/54	X370MM-FLEXI HOSE-AWP94			
2	360158	BLACK NYLON BUSH			
23	370021	CLAMP REAR FOOT (REELS)			
23	370022	CLAMP FRONT FOOT (REELS)			
PAYOUT ASSY					
7	015539	HOPPER PAYOUT ASSY - SINGLE £1 HOPPER			
17	032590	E-LOOM,HOPP DRIVE £1 ONLY MK3			
22	063264/2	(B)SLIDING HOPPER SHELF ELECTR			
18	101618	(A)PLUNGER BRACKET ELECTRA MK3			
20	102141	D-COVER-HOPPER-SECURITY-ELECTR			
19	230240	(E)MOULDING HOPPER EXTENTION			
21	340029	(A)PUSH RIVET PPR-4850 AWP 91			
16	510074	(A)ROCKER SWITCH C1501 ATY			



HISTORY SHEET



Issue	Date	Reason For Issue / Re-issue	Pages Effected
A	30 Nov 01	First issue of manual.	N/A
A.1	30 May 01	Lamps Matrix updated	17
B	11 July 01	Released to production	N/A